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L12 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:29537 HCAPLUS

DOCUMENT NUMBER: 138:78545

TITLE: Hyaluronic acid **gel**-based cell culture
substrates for tissue regenerationINVENTOR(S): Kato, Yukio; Tsutsumi, Shinichi; Miyazaki, Kazuko;
Hara, Maiko; Kawaguchi, Hiroyuki; Kurihara, Hidemi;
Miyoshi, Shozo; **Hashimoto, Masamichi**;
Himeta, Koichi

PATENT ASSIGNEE(S): Denki Kagaku Kogyo Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003010308	A2	20030114	JP 2001-196687	20010628
PRIORITY APPLN. INFO.:			JP 2001-196687	20010628

AB The substrate is made of hyaluronic acid (I) **gel** which is not substantially modified with chem. crosslinking agents or chem. modifying agents and is slightly-sol. in neutral aq. soln. Animal cells, e.g. chondrocytes, stem cells, bone marrow cells, osteoblasts, ES cells, etc., are disseminated on the substrate and the substrate contg. the surviving cells is applied to defective parts of tissues to regenerate tissues, e.g. articular cartilage, costal cartilage, tracheal cartilage, skull, periodontium, cementum tendon, ligament, etc. The **gel** may be in the forms of sheets, films, sponges, fibers, tubes, etc., and contain bioactive substances such as cell growth factors, antibiotics, proteins, oligosaccharides, or nucleic acids. I with mol. wt. 2 .times. 106 dalton was dissolved in H2O and the soln. was adjusted to pH 1.5 with HNO3 and frozen in a flat-bottomed container at -20.degree. for 5 days. The frozen **product** was soaked in a phosphate-buffered saline soln. for 24 h and dried to give sponge-like **gel**. Rabbit femur- and tibia-derived mesenchymal cells (prepn. given) were disseminated on the **gel** and incubated to become confluent in the presence of bFGF. Subculture was repeated twice and the 3rd subculture was implanted into a drilled hole formed in knee articular cartilage of a rabbit to promote regeneration of cartilage and bone.

IT 9004-61-9, Hyaluronic acid

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(manuf. of hyaluronic acid **gel**-based cell culture substrates
for tissue regeneration)

L12 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:581942 HCAPLUS

DOCUMENT NUMBER: 135:138935

TITLE: **Production** of hyaluronic acid **gel**
for medical material applicationsINVENTOR(S): Kawata, Masatoshi; Okamoto, Akio;
Miyata, Yoshiaki; Ohshima, Kazuhiro; Yamamoto,
Osamu; Miyoshi, Teruzou; Arai, Kazuhiko; Kitagawa,
Hironoshin; Umeda, Toshihiko; Kaneko, Hiroshi

PATENT ASSIGNEE(S): Denki Kagaku Kogyo Kabushiki Kaisha, Japan

SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001057093	A1	20010809	WO 2000-JP582	20000203
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1281722	A1	20030205	EP 2000-902065	20000203
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.: WO 2000-JP582 W 20000203

AB Hyaluronic acid **gel** is produced from a coexistence system comprising .gtoreq.5 wt% of hyaluronic acid, other acids in an amt. of at least mole equiv. to the carboxyl groups of the hyaluronic acid (e.g., HCl), and water.

IT 9004-61-9, Hyaluronic acid

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (prepn. of hyaluronic acid **gel** as medical material)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:585450 HCAPLUS

DOCUMENT NUMBER: 133:183073

TITLE: Bone repair materials containing **gel** comprising from only hyaluronic acid

INVENTOR(S): Hashimoto, Masamichi; Arai, Kazuhiko

PATENT ASSIGNEE(S): Denki Kagaku Kogyo K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000230002	A2	20000822	JP 1999-31527	19990209

PRIORITY APPLN. INFO.: JP 1999-31527 19990209

AB The materials, used for repair bone defects due to injury and tooth extn., etc., comprise **gel** prepd. from only hyaluronic acid (I) which is poorly-sol. in neutral aq. solns. The **gel** may be in the forms of films, sheets, slurry, crushed **products**, sponge, lump, or paste. The materials may comprise (A) I **gel**, which shows dissoln. rate in a neutral aq. soln. at 37.degree. after 12 h .ltoreq.50%,

have branched structure when solubilized upon accelerated acid hydrolysis, and partly contains a fraction with branching degree .gtoreq.0.5 in the hydrolyzates, (B) .gtoreq.1 selected from ungelatinized I, bioactive substances, bone granules, and antibiotics. Na hyaluronate was dissolved in H2O at 1% and the soln. was adjusted to pH 1.5 with HCl. The acidic soln. was frozen in a glass bottle at -20.degree. for 22 h and thawed at 25.degree. for 2 h. The freezing-thawing process was repeated twice, and the **product** was soaked in phosphate-buffered saline at 5.degree. for 24 h, and then freeze-dried to give sponge **gel**. Application of the sponge **gel** to pit formed on a skull of rabbits regenerated bone.

IT **9004-61-9**, Hyaluronic acid
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (bone repair materials contg. **gel** comprising from only hyaluronic acid)

L12 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:579964 HCAPLUS
 DOCUMENT NUMBER: 133:168444
 TITLE: Dissolution-controlled hyaluronic acid **gel**
 with controlled dissolution and its manufacture
 INVENTOR(S): Kawada, Masatoshi; Miyata, Yoshiaki;
 Yamamoto, Osamu
 PATENT ASSIGNEE(S): Denki Kagaku Kogyo K. K., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000230003	A2	20000822	JP 1999-33975	19990212
PRIORITY APPLN. INFO.:			JP 1999-33975	19990212

AB The **gel**, which show dissoln. rates .ltoreq.50% after 1 day and .gtoreq.50% after 3-14 days at 25.degree. in the neutral aq. soln. and is useful for preventing tissue adhesion after surgery, etc., is manufd. by freezing an aq. soln. of hyaluronic acid with pH 2-3.5 and thawing the frozen **product**. Na hyaluronate (mol. wt. 2 .times. 106 Da) was dissolved at 1% and the soln. with pH 6.0 was adjusted to pH 2.0 and frozen at -20.degree. for 24 h. The frozen **product** was thawed at 25.degree. to give sponge **gel**. The **gel** (10 mg) was soaked in 50 mL phosphate-buffered saline (pH 7) to show the dissoln. rates after 1 and 14 days 6 and 56%, resp. The dissoln. rate was controllable by changing the mol. wt. of Na hyaluronate and/or freezing time.

IT **9004-61-9**, Hyaluronic acid
 RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (manuf. of dissoln.-controlled hyaluronic acid **gel** by freezing-thawing the aq. solns.)

L12 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:166649 HCAPLUS
 DOCUMENT NUMBER: 130:213700
 TITLE: Hyaluronic acid **gel**, process for
 producing the same and medical material

containing the same
 INVENTOR(S): **Miyata, Yoshiaki; Okamoto, Akio;**
 Kawada, Masatoshi; **Oshima, Kazuhiro;**
Hashimoto, Masamichi; Arai, Kazuhiko; Sawada,
 Tomio
 PATENT ASSIGNEE(S): Denki Kagaku Kogyo Kabushiki Kaisha, Japan
 SOURCE: PCT Int. Appl., 41 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9910385	A1	19990304	WO 1998-JP3536	19980807
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG CA 2301018 AA 19990304 CA 1998-2301018 19980807 AU 9885616 A1 19990316 AU 1998-85616 19980807 AU 742675 B2 20020110 EP 1005874 A1 20000607 EP 1998-936706 19980807 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, FI US 2002098244 A1 20020725 US 2002-47091 20020117 PRIORITY APPLN. INFO.: JP 1997-226734 A 19970822 JP 1998-117564 A 19980427 WO 1998-JP3536 W 19980807 US 2000-463993 A1 20000626				

AB The invention relates to a **gel** of hyaluronic acid alone,
 characterized by being difficultly sol. in neutral aq. solns., and a
 medical material contg. the hyaluronic acid **gel**, characterized
 by keeping its shape in a neutral aq. soln. at a temp. of 25.degree. for
 one day or longer. The materials can be made into e.g. accretion
 inhibitors.

IT **9004-61-9**, Hyaluronic acid
 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological
 study); USES (Uses)
 (hyaluronic acid **gel**, process for **producing** the
 same and medical material contg. the same)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT